

Before the  
FEDERAL COMMUNICATIONS COMMISSION  
Washington, D.C. 20554

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In the Matter of )  
)  
Amendment of Parts 2 and 25 of the )  
Commission's Rules to Permit Operation of )  
NGSO FSS Systems Co-Frequency with GSO )  
and Terrestrial Systems in the Ku-Band )  
Frequency Range )  
and )  
Amendment of the Commission's Rules to )  
Authorize Subsidiary Terrestrial Use of the )  
12.2-12.7 GHz Band by Direct Broadcast )  
Satellite Licensees and Their Affiliates )

ET Docket No. 98-206  
RM-9147  
RM-9245

To: The Commission

REPLY COMMENTS  
OF  
AIRTOUCH COMMUNICATIONS, INC.

In the *Notice of Proposed Rulemaking* in this proceeding, the Commission proposes to amend its rules to permit non-geostationary satellite orbit ("NGSO") fixed-satellite service ("FSS") operations in certain segments of the Ku-band, including the 10.7-11.7 GHz band ("the 11 GHz band"), under certain circumstances.<sup>1</sup> AirTouch Communications, Inc. ("AirTouch") hereby submits its Reply Comments concerning certain of the proposed rules and policies that would govern such operations.

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<sup>1</sup> *NGSO FSS Systems Co-Frequency with GSO and Terrestrial Systems*, ET Docket No. 98-206, *Notice of Proposed Rulemaking*, FCC 98-310 (released November 24, 1998) ("Notice"). The Notice was prompted in part by a Petition for Rulemaking filed by SkyBridge L.L.C. ("SkyBridge"), and an earlier filed application by SkyBridge for authority to launch and operate an NGSO FSS system.

## I. INTRODUCTION

AirTouch's interest in this proceeding arises from the *Notice*'s proposals concerning NGSO FSS use of the 11 GHz band for downlink gateway stations. The 11 GHz band already is used for, among other things, terrestrial fixed microwave services, and AirTouch and its affiliated companies that provide CMRS services operate licensed fixed point-to-point microwave facilities in this band for purposes of carrying backhaul traffic. Reliable usage of the 11 GHz band is critical to the continued provision of CMRS services, and it is therefore crucial that the Commission adopt effective measures to ensure that NGSO FSS systems can share this band without restricting its use by incumbent fixed service licensees.<sup>2</sup>

## II. THE GROWTH AND EVOLUTION OF FIXED SERVICES IN THE 11 GHz BAND MUST BE PROTECTED.

In committing to carefully consider NGSO FSS gateway downlink operations to determine their impact on incumbent operation in the 11 GHz band, the Commission noted the importance of this band to fixed service systems.<sup>3</sup> The need to protect fixed services in the 11 GHz band from interfering uses is heightened by the fact that, in recent years, the number of spectrum bands available for fixed service operators has been shrinking. Spectrum in the 1850-1990 MHz and 2110-2200 MHz bands has been reallocated to Personal Communications Services and Mobile Satellite Services, respectively,<sup>4</sup> and the Commission has proposed reducing

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<sup>2</sup> The high capacity links needed for cellular backhaul are available only in the 6 GHz and 11 GHz bands. Because of heavy existing use at 6 GHz, it is sometimes not possible to coordinate a 6 GHz path. In such cases the 11 GHz band is the only choice.

<sup>3</sup> See *Notice* at ¶ 16.

<sup>4</sup> See *Redevelopment of the Spectrum to Encourage Innovation in New Telecommunications Technology*, ET Docket No. 92-2, *First Report and Order*, 7 FCC Rcd 6886 (1992); *Second Report and Order*, 8 FCC Rcd 6495

the amount of spectrum available in the 18 GHz band for fixed services.<sup>5</sup> The 11 GHz band is one of the bands designated for relocation of fixed service operators from the 2 GHz band,<sup>6</sup> further increasing the importance and use of the band for fixed services.

Protection of fixed services in the 11 GHz band is critical for commercial operators such as AirTouch. This band is extensively used for backhaul by cellular carriers, as well as local access providers, and this use is expected to continue to grow. For example, in the Los Angeles market, the 11 GHz band is used for high capacity links connecting AirTouch's hub stations to the mobile telephone switching office. Although only about 10 percent of AirTouch's licensed point-to-point links are at 11 GHz, approximately 60-70 percent of AirTouch's cellular calls in this market pass through links in the 11 GHz band. AirTouch licenses 30 MHz-wide channels, each of which can handle three DS3s (or the equivalent of 2016 voice channels). As pointed out by Comsearch in its comments, the 11 GHz band is the only short-haul band in which channel bandwidths and equipment availability support transmission rates greater than 45 Mb/s.<sup>7</sup>

In the future, point-to-point links in the 11 GHz band will be even more in demand due to increases in cellular subscribers, in the number of cell sites and in minutes of use, and as a result

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(1993); *Third Report and Order*, 8 FCC Rcd 6589 (1993).

<sup>5</sup> See also *Redesignation of the 17.7-19.7 GHz Frequency Band*, IB Docket No. 98-172, *Notice of Proposed Rulemaking*, FCC 98-235 (released September 18, 1998), 63 Fed. Reg. 54100 (October 8, 1998).

<sup>6</sup> See *Amendment of Section 2.106 of the Commission's Rules to Allocate Spectrum at 2 GHz for Use by the Mobile Satellite Service*, ET Docket No. 92-9, *Second Report and Order*, 8 FCC Rcd 6495 (1993). See also *Amendment of Section 2.106 of the Commission's Rules to Allocate Spectrum at 2 GHz for Use by the Mobile-Satellite Service*, ET Docket No. 95-18, *First Report and Order & Further Notice of Proposed Rulemaking*, 12 FCC Rcd 7388 (1997).

<sup>7</sup> See Comsearch Comments at p. 4. AirTouch employs trunked DS3 transmission lines for its cellular backhaul for links of 5-15 miles in length. A transmission rate of 45 Mb/s is needed in order to support a DS3.

of additional data capabilities brought about by digital transmission and 3G wireless technologies.

In addition, the availability of reliable backhaul spectrum in the 11 GHz band enables operators like AirTouch to rapidly initiate service from new cellular sites, providing better service to customers through greater coverage and increased reliability, and facilitating more efficient spectrum usage through greater frequency reuse. It is thus imperative now and in the future that use of this band by NGSO FSS systems for downlinks be allowed only under conditions that will not jeopardize the continued viability or restrict the legitimate growth and evolution of fixed service uses in the 11 GHz band.<sup>8</sup>

SkyBridge has repeatedly stated that its proposal will protect fixed service users from interference, and promised that its proposed system would result in “no significant reduction in the ability of existing [fixed service] operators to add new links to their systems,”<sup>9</sup> and would “impose no operational constraints on . . . terrestrial operators.”<sup>10</sup> The Commission must ensure that these promises are kept. As Commissioner Susan Ness stated in her statement appended to the *Notice*:

whatever spectrum sharing criteria are finally adopted by the Commission for the Ku-band must not restrict the growth and evolution of existing geostationary and

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<sup>8</sup> Links in the 11 GHz band are also used by utilities, railroads, state and local governments, and public safety agencies, whose interests in protecting these links from interference from NGSO FSS systems also must be protected.

<sup>9</sup> Petition for Rulemaking of SkyBridge L.L.C. in *NGSO FSS Systems co-Frequency with GSO and Terrestrial Systems*, RM-9147 (filed July 3, 1997), at p. 12.

<sup>10</sup> Amendment to SkyBridge L.L.C. Application for Authority to Launch and Operate the SkyBridge Satellite System, File No. 48-SAT-P/LA-97 (filed July 2, 1997), at p. 22.

terrestrial systems operating in the frequency band.<sup>11</sup>

**III. THE COMMISSION MUST ADOPT SPECIFIC SPECTRUM SHARING CRITERIA THAT WILL PROTECT FIXED SERVICE USES IN THE 11 GHz BAND.**

AirTouch urges the Commission to incorporate into its rules governing NGSO FSS operations sufficient protection of existing terrestrial fixed services to enable those services to continue to expand and thrive in the 11 GHz band.

**A. The Commission Should Adopt Its Proposals To Define Gateway Operations And To Limit NGSO FSS Use of the 11 GHz Band to Gateway Downlink Operations.**

In the *Notice*, the Commission proposes to allow only NGSO FSS gateway downlink operations in the 11 GHz band, and to adopt a definition of “gateway operations” that would make clear that such operations “are not intended to originate or terminate traffic but are primarily intended for interconnecting to other networks.”<sup>12</sup> Teledesic suggests that adopting such provisions is unnecessary and would constitute “micromanagement” and “unnecessary command and control regulation.”<sup>13</sup> To the contrary, AirTouch submits that adopting a strict definition of the permissible operations in the so-called “Gateway Bands” is necessary in order to achieve the goal of continued shared use of these bands by NGSO FSS and fixed service operators.

The principal reason for restricting the NGSO FSS use of the 11 GHz band to gateway

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<sup>11</sup> *Notice*, Separate Statement of Commissioner Susan Ness.

<sup>12</sup> *Notice* at ¶¶ 4, 5.

<sup>13</sup> Teledesic LLC Comments at pp. 6-7.

downlink operations is to limit the number of terminals operating in this band, thereby limited the potential for interference with fixed services. Teledesic proposes no meaningful alternative that would limit the impact of NGSO FSS operations in the 11 GHz band on fixed service operators. The Commission should therefore establish a clear definition for “gateway operations” and adopt its proposal to allow only NGSO FSS gateway downlink operations in the 11 GHz band.

**B. The Commission Should Adopt Its Proposal For Exclusion Areas.**

AirTouch supports the Commission’s proposal to establish “exclusion areas” around the 50 most populous cities within which NGSO FSS gateway earth stations would not be permitted. AirTouch agrees that the proposed exclusion areas are the minimum necessary to protect the future growth of fixed services in the 11 GHz band, and supports the suggestions made by the Fixed Wireless Communications Coalition (“FWCC”) for expansion of these exclusion areas to include intercity corridors.<sup>14</sup> Adoption of exclusion areas is necessary to protect fixed services and permit appropriate expansion of these needed services.

Contrary to SkyBridge’s assertion,<sup>15</sup> AirTouch wishes to emphasize that exclusion areas should not be viewed as a vehicle only to allow a “head start” to relocated fixed service operators in building out the 11 GHz band in urban areas. As noted above, existing users of the band such as AirTouch are today making important use of this band and expect to experience significant growth in the demand for these facilities in both the near-term and long-term future. These facilities will likely not be able to meet this growing demand unless protection in the form of

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<sup>14</sup> See FWCC Comments at p. 8.

<sup>15</sup> SkyBridge Comments at pp. 72-73.

exclusion areas is provided by the Commission.

**C. Exclusion Area Restrictions Should Not Sunset.**

The Commission has proposed to “sunset” the exclusion area restriction for NGSO FSS downlink gateways after a specified number of years, apparently based on the mistaken belief that exclusion areas are only needed “to provide deployed fixed operations an opportunity to move from the 2 GHz frequency band.”<sup>16</sup> While relocation of fixed service operators from other bands is indeed an important factor in favor of adopting exclusion areas, all fixed users in the 11 GHz band (including incumbent users such as AirTouch) should be allowed to expand their use of this band. As pointed out by Comsearch and FWCC, the 11 GHz band is an important growth band and continued protection is required to accommodate future growth by both incumbent users of the band and relocated users from the 2 GHz band.<sup>17</sup> Adoption of a sunset date would allow NGSO FSS operations into the areas most crucial to fixed service operation and thereby defeat the entire purpose underlying adoption of the exclusion areas in the first place. AirTouch strongly urges the Commission not to adopt its proposal to include a sunset date with the exclusion area requirement.

**D. The Commission Should Maintain the Requirement That Only International GSO FSS Systems May Use the 11 GHz Band.**

The Commission’s Rules restrict geostationary-satellite orbit (“GSO”) FSS systems operating in the 11 GHz band (and in the 12.75-13.25 GHz band) to international operations.<sup>18</sup>

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<sup>16</sup> Notice at ¶ 25.

<sup>17</sup> See Comsearch Comments at pp. 4-5, and FWCC Comments at p. 8.

<sup>18</sup> See 47 C.F.R. § 2.106 and footnote NG104.

In the *Notice*, while proposing to allow domestic NGSO FSS use of the 11 GHz band, the Commission wisely reasserted the need to limit GSO FSS operations in this way. GSO FSS interests now urge the Commission to open up the 11 GHz band to a broad range of domestic, as well as international, GSO FSS operations, arguing that doing so “would enhance network productivity and efficiency of existing and future GSO FSS operations . . .”<sup>19</sup> and would avoid “plac[ing] NGSO systems in a preferred position.”<sup>20</sup> GSO FSS earth stations involved in international operations currently share this band with fixed services, and the Commission has proposed to add NGSO FSS downlink gateways as co-primary users.

While AirTouch does not oppose the general proposition of sharing with NGSO FSS gateway operations as long as adequate safeguards are in place to protect the continued growth of fixed services, it does object to GSO FSS operators attempting to use this proceeding as a means to expand their use of these frequencies. The Commission should not further endanger the expansion and growth of fixed services by allowing even more GSO FSS earth stations to be deployed.

Similarly, AirTouch opposes PanAmSat’s suggestion that the Commission not limit GSO FSS systems operating in the 11 GHz band to “gateway operations.”<sup>21</sup> The wide variety of

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<sup>19</sup> Loral Comments at pp. 4-5.

<sup>20</sup> PanAmSat Comments at p. 19. PanAmSat does not explain the apparent contradiction between its concern about regulatory parity with NGSO FSS systems and its proposal to exempt GSO FSS operations in the 11 GHz band from the gateway-only limitation to be imposed on NGSO FSS systems in this band. *See* PanAmSat Comments at p. 20.

<sup>21</sup> *See* PanAmSat Comments at p. 20.



prospective uses mentioned by PanAmSat<sup>22</sup> demonstrate exactly why the Commission should not allow expanded uses of this band by GSO FSS systems. The Commission's proposals in this proceeding are properly intended to limit the number of FSS terminals operating in the 11 GHz band, thereby limiting the potential impact on fixed services. Expanded GSO FSS use of the band runs counter to this objective and should be rejected.<sup>23</sup>

**E. The Commission Should Adopt Technical Requirements and Coordination Procedures for NGSO FSS As Suggested by FWCC.**

Protection of fixed services operating in the 11 GHz band also requires that strict technical requirements and coordination procedures be adopted. AirTouch concurs generally with the comments filed by FWCC regarding technical limitations on NGSO FSS gateway facilities.<sup>24</sup> The proposed use of shielding and minimum antenna size will go far toward enabling terrestrial and satellite systems to share this band amicably. SkyBridge also supports the use of shielding in its comments, although it would place the burden of installing shielding on terrestrial operators in some cases.<sup>25</sup> AirTouch proposes that shielding be assumed in the coordination process and that the satellite operators be obliged to install any shielding actually required.

In addition, some changes are necessary to the proposed GSO coordination procedures for

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<sup>22</sup> PanAmSat suggests that GSO FSS systems could use the 11 GHz band for such things as networks linking a small number of video programming production sites to a central distribution center, corporate networks supporting high-bandwidth communications, and satellite-based Internet backbone networks. *Id.*

<sup>23</sup> AirTouch also concurs with Comsearch in opposing proposed rule changes that would allow GSO FSS systems to operate in the entire 10.7-11.7 GHz band, rather than the segments (10.95-11.2 and 11.45-11.7 GHz) that are currently available to them. *See* Comsearch Comments at pp. 6-8.

<sup>24</sup> *See* FWCC Comments at pp. 9-10.

<sup>25</sup> *See* SkyBridge Comments at pp. 71-72.

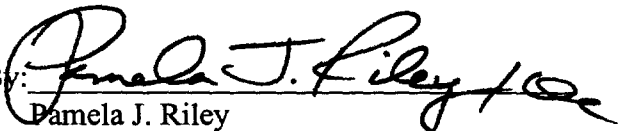
NGSO systems. As FWCC and Comsearch point out in their comments, there are critical differences between the operations of GSO and NGSO systems that must be taken into account and the Commission should look to industry groups to develop appropriate procedures.<sup>26</sup>

#### IV. CONCLUSION.

Shared use of the 10.7-11.7 GHz band between terrestrial fixed service operations and NGSO FSS systems can be achieved so long as the Commission is careful to adopt protections for current and future terrestrial users. The structural protections suggested herein and the technical standards outlined by other fixed service interests in their comments will enable NGSO FSS systems to be placed into operation without undue interference to fixed service operators. Without these protections, NGSO FSS use of this band threatens to make the band virtually unusable for terrestrial operations. Such a result would ill-serve the public interest, and the Commission must act to prevent it from occurring.

Respectfully submitted,

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<sup>26</sup> See FWCC Comments at pp. 17-21, and Comsearch Comments at p. 3.

## CERTIFICATE OF SERVICE

I, Marilyn D. Garrett, hereby certify that on this 29th day of March, 1999, copies of the foregoing Reply Comments of AirTouch Communications, Inc. were served by first-class United States mail, postage prepaid (unless otherwise indicated), to the following:

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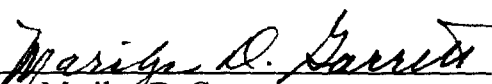
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